**To:** Jones, Joel E.[Jones.Joel@epa.gov]
**From:** Don't Waste Arizona
**Sent:** Tue 11/8/2016 2:38:34 AM
**Subject:** Fw: modeling for releases from CAFOs (Concentrated Animal Feed Operations)

I haven't heard back yet from Kathryn Lawrence, but when I run an ALOHA model with the information about the daily ammonia releases our expert has come up with, I get a plume that travels a minimum of 150 yards or more downwind from the Tonopah facility, and the AEGL-1 of 30ppm for 60 minutes threat zone in the plume. In other words, ALOHA says the town of Tonopah should be evacuated. I spoke with the fire chief for the Tonopah Area Fire District, John Teixeri, who is familiar with ALOHA, today about this. He agrees there is a chronic risk, and he smells ammonia much of the time, but is not sure if there is an acute risk.

I do know that Hickman's uses no ammonia abatement techniques. When manure from the chickens arrive at the east end of the 84 foot long barns (40 feet tall) on a conveyor belt, ventilation fans blow all the air from the barns of chickens out the east end through a large opening in the barns (characterized as three-sided barns)
**so it can help dry the manure. So all the ammonia emissions are blown outside with no filters. Trucks actually back into the barns to load the manure to be hauled away.**

**The lagoons with manure are also just open air.**

The ATSDR (Agency for Toxics Substances and Disease Registry) has relevant data on its website.

If you can smell ammonia, with an odor threshold of 5 ppm, then you are already at risk.

http://www.atsdr.cdc.gov/toxprofiles/tp126-c2.pdf

Inhalation MRLs (Minimal Risk Levels)

An MRL of 1.7 ppm has been derived for acute-duration inhalation exposure (14 days or less) to ammonia.

An MRL of 0.1 ppm has been derived for chronic-duration inhalation exposure (365 days or more) to ammonia.

http://www.atsdr.cdc.gov/toxprofiles/tp126-c8.pdf

Inhalation.
Inhalation of ammonia may cause nasopharyngeal and tracheal burns, bronchiolar and alveolar edema, and airway destruction resulting in respiratory distress or failure. Ammonia's odor threshold is sufficiently low to acutely provide adequate warning of its presence (odor threshold = **5 ppm**; OSHA PEL = **50 ppm**) (PEL is permissible exposure level 9in the workplace, and is not an appropriate level for citizens.)

http://www.atsdr.cdc.gov/mmg/mmg.asp?id=7&tid=2

**I've watched the folks in the area gradually get more and more ill, and their symptoms match chronic exposure to ammonia.**

**Steve Brittle**

**From:** Lawrence, Kathryn
**Sent:** Monday, October 24, 2016 12:21 PM
**To:** dwaz@fastq.com
**Subject:** Re: modeling for releases from CAFOs (Concentrated Animal Feed Operations)

**Hi Steve**

**Let me look into this and get back to you.**

**Kathryn Lawrence**
**Emergency Prevention and Preparedness Programs**
**EPA Region 9**
**4159723039**

**Sent from my iPhone**

**On Oct 24, 2016, at 12:15 PM, Don't Waste Arizona <dwaz@fastq.com> wrote:**

> **I have been using ALOHA for many years now, having received training as an LEPC member about how to do that. But ALOHA has some limitations.**
>
> **Is there a program or methodology used by EPA or suggested by EPA for**

**computing OCA from a continuous release of more than one hour?**

**Is there a program or methodology used by EPA or suggested by EPA for computing OCA from a large stationary source that emits ammonia from several point sources?**

**Thanks,**

**Steve Brittle**
**DWAZ**
**602-881-3305**